

1 **WHAT IS CLAIMED IS:**

- 2 1. An automated slip puller apparatus comprising:
- 3 (a) a slip base located on a rotary table;
- 4 (b) a pulling mechanism pivotally attached to the slip base,
- 5 (c) slips connected to the pulling mechanism; and
- 6 (d) at least one cylinder connected to the pulling mechanism and operable to
- 7 move the pulling mechanism between an activated and a deactivated
- 8 position, wherein no portion of the pulling mechanism is outside of the
- 9 boundary of the rotary table.
- 10
- 11 2. The automated slip puller apparatus of claim 1, wherein the slip base is connected
- 12 to the rotary table via the kelly bushing receptacles.
- 13
- 14 3. The automated slip puller apparatus of claim 1, wherein the slip base is connected
- 15 to the rotary table via magnets.
- 16
- 17 4. The automated slip puller apparatus of claim 1, wherein the cylinder comprises a
- 18 hydraulic cylinder.
- 19
- 20 5. The automated slip puller apparatus of claim 1, wherein the cylinder comprises a
- 21 pneumatic cylinder.
- 22
- 23 6. The automated slip puller apparatus of claim 1, wherein the pulling mechanism
- 24 comprises at least one bottom arm.
- 25
- 26 7. The automated slip puller apparatus of claim 1, wherein the pulling mechanism
- 27 comprises a top arm.
- 28
- 29 8. The automated slip puller apparatus of claim 1, wherein the pulling mechanism
- 30 comprises a pull arm.
- 31

- 1 9. The automated slip puller apparatus of claim 1, wherein the slips are suspended
2 from an accommodating link connected to a pull arm extension.
3
- 4 10. The automated slip puller apparatus of claim 1, wherein the pulling mechanism
5 comprises at least one bottom arm, a top arm, a pull arm, and a pull arm
6 extension.
7
- 8 11. The automated slip puller apparatus of claim 10, wherein at least one bottom arm
9 and the top arm exhibit a parallelogram geometry, both in the activated and
10 deactivated position.
11
- 12 12. The automated slip puller apparatus of claim 1, wherein the pulling mechanism is
13 encased in a protective sheath.
14
- 15 13. The automated slip puller apparatus of claim 1, wherein the apparatus is
16 manipulated via remote control.
17
- 18 14. The automated slip puller apparatus of claim 1, wherein no portion of the pulling
19 mechanism is outside the boundary of the rotary table when in the activated
20 position.
21
- 22 15. The automated slip puller apparatus of claim 1, wherein no portion of the
23 automated slip puller is outside the boundary of the rotary table.
24
- 25 16. An apparatus for manipulating tubular members comprising:
26 (a) a slip base attached to a rotary table;
27 (b) gripping means for engaging the tubular members,
28 (c) manipulating means for moving the gripping means between an activated
29 and deactivated position; and

- 1 (d) connecting means, attached to the slip base, for connecting the gripping
2 means to the manipulating means, wherein no portion of the connecting
3 means is outside of the boundary of the rotary table.
4
- 5 17. The apparatus of claim 16, wherein the slip base is attached to the rotary table via
6 the kelly bushing receptacles.
7
- 8 18. The apparatus of claim 16, wherein the slip base is connected to the rotary table
9 via magnets.
10
- 11 19. The apparatus of claim 16, wherein the connecting means exhibits a parallelogram
12 both in the activated and deactivated position.
13
- 14 20. The apparatus of claim 16, wherein the connecting means and manipulating
15 means are encased in a protective sheath.
16
- 17 21. The apparatus of claim 16, wherein the apparatus is manipulated via remote
18 control.
19
- 20 22. The apparatus of claim 16, wherein no portion of the pulling mechanism is
21 outside the boundary of the rotary table when in the activated position.
22
- 23 23. A well drilling process comprising the steps of:
24 constructing a power slip apparatus comprising at least:
25 (a) a slip base located on a rotary table;
26 (b) a pulling mechanism pivotally attached to the slip base;
27 (c) slips connected to the pulling mechanism; and
28 manipulating the pulling mechanism between an activated and a deactivated
29 wherein no portion of the pulling mechanism is outside of the boundary of the
30 rotary table.
31

- 1 24. The well drilling process of claim 23, wherein the pulling mechanism is
2 manipulated by means of a cylinder.
3
- 4 25. The well drilling process of claim 23, wherein the pulling mechanism is
5 manipulated by means of a spring.
6
- 7 26. The well drilling process of claim 24, wherein the cylinder comprises a hydraulic
8 cylinder.
9
- 10 27. The well drilling process of claim 24, wherein the cylinder comprises a pneumatic
11 cylinder.
12
- 13 28. The well drilling process of claim 23, wherein the pulling mechanism is
14 manipulated via remote control.
15
- 16 29. The well drilling process of claim 23, wherein the pulling mechanism exhibits a
17 parallelogram geometry both in the activated and deactivated position.
18
- 19 30. The well drilling process of claim 23, wherein no portion of the pulling
20 mechanism is outside the boundary of the rotary table when in an activated
21 position.
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